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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/587,514	UCHIMOTO ET AL.	
	Examiner	Art Unit	
	JESSE S. PULLIAS	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the correspondence filed 7/13/09 regarding application 10/587514, in which claim 7 was amended and new claims 19 and 20 were added. Claims 1-20 are pending in the application and have been considered.

Response to Arguments

2. The arguments on pages 19-23 of the remarks have been considered and are not persuasive for at least the following:

Pages 19 of the Remarks argues:

> Firstly, Wakita inputs entire sentences. In this regard, reference is made to paragraph [0108] of Wakita, which states that voice recognizing means 4 recognizes the voice input as an original languages sentence. This differs fundamentally from Applicants' claimed invention, which positively recites "an input step in which the one or more keywords in the source language are input via an input means without inputting a full sentence in the source language..."

In response, as noted on page 8 of the previous office action, Wakita and Appleby do not specifically mention the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in

the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

The argument that Wakita differs from the claimed step of " an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language" is not persuasive because it attempts to show nonobviousness by attacking Wakita individually where the rejection is based on a combination of Wakita, Appleby, and Chan. One cannot show nonobviousness by attacking references individually when the rejection is based upon a combination of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Page 20 of the Remarks argues:

> Secondly, Wakita does not appear to disclose a keyword-related storage step, as claimed. The Office Action asserts that this step is disclosed in paragraphs [1026-8] - which appears to be a typo and to mean paragraphs [126-8]. Applicants respectfully disagree with this assertion, because Wakita does not disclose storing in the form of a keyword related phrase table, a target-language keyword-related phrase corresponding to each source-language keyword-related detected phrase. Instead, it appears that Wakita outputs a target language expression pattern - see paragraph [0129]. The *Office Action admits that this claimed feature is not found in Wakita.*

In response, it is unclear why Wakita not specifically disclosing storage in the form of a "keyword related phrase *table*" shows that Wakita does not disclose a "keyword-related storage step". Further, as noted on page 7 of the previous office action, in Fig 5(b), Wakita explicitly discloses storage of keywords in a database. It is also unclear why the disclosure of outputting a target language expression pattern in

paragraph [0129] shows that Wakita does not disclose a keyword related storage step, especially since it is performed "as a result of comparing the key word pairs in the input sentence with the key word pairs in all the sentence examples in the example DB3".

Page 20 of the Remarks argues:

Thirdly, Wakita's text sentence candidate generation feature does not involve the claimed keyword-related phrases in the target language in the admittedly lacking keyword-related phrase table.

In response, as noted on page 7 of the previous office action, Wakita does not specifically mention the phrases are stored in the form of a keyword-related phrase table in a storage means, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table.

Appleby discloses phrases are stored in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory**)**, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored in the form of a keyword-related phrase table in a storage means, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, as taught by Appleby, in

order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

The argument that "Wakita's text sentence candidate generation feature does not involve the claimed keyword-related phrases in the target language in the admittedly lacking keyword-related phrase table" is not persuasive because it attempts to show nonobviousness by attacking Wakita individually where the rejections is based on a combination of Wakita, Appleby, and Chan. One cannot show nonobviousness by attacking references individually when the rejection is based upon a combination of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Pages 20-21 of the Remarks argue:

> In an attempt to remedy some of the aforementioned deficiencies of Wakita, the Office Action turns to Appleby. However, in Appleby, *the full text sentence* in the source language to be translated *has to be selected-inputted* at the outset in order for Appleby's translation machine to translate, not just *a segment* of the full text sentence in the source language. In particular, in Appleby's system, it is essential to input a first sentence of the source document, and to map words of a first sentence of the source document and the corresponding sentence of the translation document in a translation step (see FIGs. 3-4 and paragraphs [0039]-[0046]). The user then draws dependency relationship lines between the boxes containing the words (see FIG. 6 and paragraphs [0048]-[0052]). However, Appleby nowhere discloses simply inputting a *segment* (i.e., the one or more keywords) of the full text sentence in the source language *without inputting a full text sentence in the source language*. Therefore, Appleby fails to teach "an input step in which the one or more keywords in the source language are input via an input means *without inputting a full text sentence in the source language,* the one or more keywords being a *segment* of the full text sentence in the source language" as recited in claim 1 and "input apparatus for inputting the one or more keywords in the source language *without inputting a full text sentence in the source language,* the one or more keywords being a *segment* of the full text sentence in the source language" as recited in Applicants' independent claims. Unlike Appleby, the present invention simply extracts *a sentence including at least one of the keywords* from a parallel corpus database, which is much simpler and more efficient than Appleby's word-for-word match.

In response, as noted on page 7 of the previous office action, Wakita and Appleby do not specifically mention the one or more keywords in the source language

are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

The argument that Appleby does not teach the claimed step of " an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language" is not persuasive because it attempts to show nonobviousness by attacking Appleby individually where the rejections are based on a combination of Wakita, Appleby, and Chan. One cannot show nonobviousness by attacking references individually when the rejection is based upon a combination of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Page 21 of the Remarks argues:

The Examiner argued during the interview that Appleby has to store "key words and expression patterns", disclosed in paragraph [0115] somewhere, and that Appleby has to store

phrases shown in Fig. 19c somewhere in its computer, and that an obvious place to store this information is in a table or database.

Even assuming arguendo that this is true, neither Wakita nor Appleby discloses or suggests the claimed text sentence candidate generation step in which a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generates one or more target-language text sentence candidates;

The examiner respectfully disagrees. As noted on pages 7-8 of the previous office action, Wakita discloses a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**)**; and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language **(Fig 8,** text output**)**.

Wakita does not specifically mention the phrases are stored in the form of a keyword-related phrase table in a storage means, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table.

Appleby discloses phrases are stored in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory**)**, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored in the form of a keyword-related phrase table in a storage means, and a text candidate generation

means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, as taught by Appleby, in order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

Further, the argument that "neither Wakita nor Appleby discloses or suggests the claimed text sentence candidate generation step in which a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generates one or more target-language text sentence candidates" amounts to a general allegation that the claimed feature is not disclosed by the references without specifically pointing out how the language of the claimed feature patentably distinguishes it from the disclosures of the cited references.

Page 22 of the Remarks argues:

> Chan is applied to disclose an input step in which one or more keywords in the source language are input without inputting a full text sentence, and concludes that it would be obvious to modify Wakita to not input a whole sentence.
>
> Applicants respectfully disagree with this conclusion for a number of reasons.
>
> Firstly, Chan never explicitly (or inherently, i.e., necessarily) states that its query is a single word. Rather, Chan just identifies a keyword from the query, and standardizes the identified keyword to a commonly known word and/or term

In response, on Col 2 lines 32-35, Chan gives an example query "shrimp caviare", which is not a whole sentence. Further, as is suggested by Chan on Col 1 lines 20-24, it was well known that search engines are used to retrieve information from

the Web by using "keywords, phrases, or queries", not whole sentences. There is no disclosure in Chan that whole sentences are input.

Page 22 of the Remarks also argues:

> Secondly, the Office Action fails to establish by objective factual evidence that one of ordinary skill in the art would be properly motivated to just input a single keyword into Wakita when Wakita is designed to convert expressions of input sentences (paragraph [0103] of Wakita, not just single keywords. No explanation of why just inputting a single keyword and not entire sentences will help assist in converting expressions in those sentences. Applicants respectfully submit that just inputting single keywords into Wakita is counterintuitive and would result in an inoperative device.

In response, as was noted on page 8 of the previous office action, “It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that *the target language search engine will recognize it*, as noted by Chan **(Col 4 lines 22-29)."** (emphasis added). Further, the examiner disagrees that just inputting single keywords into Wakita is counterintuitive and would result in an inoperative device, for at least the reason that Wakita extracts keywords from a spoken input, which are then input to the sentence example selecting means, see Fig. 1 of Wakita. The modification proposed in the previous action of Wakita with Chan would have at least one additional advantage of being able to accept a typed query of words, which is supported by the factual evidence in Chan because Chan

shows the need to insure that a search engine will recognize the query. Wakita, on the other hand inputs full sentences by voice.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 5-7, 8, 12-14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), in further view of Chan et al. (6,604,101).

With respect to claims 1 and 8, Wakita discloses a method and apparatus for generating a text sentence in a target language different from a source language **(Abstract)**, based on one or more words in the source language input as keywords **(Abstract)**, the method comprising: an input step in which the one or more keywords in the source language are input via an input means **(Fig 1,** key word extracting means 5 extracts keywords which are input to sentence example selecting means 7**)**, the one or more keywords being a segment of the full text sentence in the source sentence **(Fig 7,** input sentence and extracted keywords**)**; a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including at least one of the keywords from a parallel corpus database **(Fig 2a)** including partial correspondence information indicating correspondence between a word/phrase in the

source language and a word/phrase in the target language in each sentence pair **([0119],** key words are paired in the example DB3**)**; a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair **([1026-8],** keywords are combined to make phrases, which are found in the examples**,** also **Fig 5b)**; a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**)**; and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language **(Fig 8,** text output**)**.

Wakita does not specifically mention the phrases are stored in the form of a keyword-related phrase table in a storage means, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table.

Appleby discloses phrases are stored in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory**)**, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored in the form

of a keyword-related phrase table in a storage means, and a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, as taught by Appleby, in order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

Wakita and Appleby do not specifically mention the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

With respect to claims 5 and 12, Wakita and Appleby disclose a text sentence is generated a target language by performing the sentence pair extraction step, the keyword-related phrase storage step, and the text sentence candidate generation step

for each combination of source and target language; and in the output step, a text sentence candidate of one language is output **(See claim 1).**

Wakita and Appleby do not specifically mention two or more languages are output.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the invention of Wakita and Appleby to output two or more languages instead of one, since the translation device disclose by Appleby may be viewed as a "base device" upon which outputting two languages instead of one may be viewed as an improvement; translation from one languages to two or more was a known technique at the time of the invention; and one of ordinary skill in the art would have recognized that applying the known technique of translating into two or more languages would have predictably resulted in two or more output translations which would have improved the invention by making it useful to a multilingual audience.

With respect to claims 6 and 13, Wakita discloses a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**) (Fig 7)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**).**

Wakita does not specifically mention the text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and a source-language text candidate generation means assumes dependency relationships among keyword-

related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate, and in the output step, at least one set of text sentences in the source and target languages is output from the output means.

Appleby discloses a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table **([0045]** target dependency structure D**)**, and a source-language text candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate **([0045]** target dependency structure C**)**, and in an output step, at least one set of text sentences in the source and target languages is output from the output means **(Fig 6)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and a source-language text candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate for reasons similar to those of claim 1. I would have been further obvious to modify the invention such that in the output step, at least one set of text sentences in the source and target

languages is output from the output means, in order to allow the user to confirm the correct sentence in the source language has been translated.

With respect to claim 7 and 14, Wakita does not, but Appleby discloses after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates each text sentence candidate **([0169], [0253],** translation units are evaluated to find a matching structure, a score is calculated), wherein in the output step, at least one text sentence candidate is selected based on the evaluation and the selected text sentence candidate is output **([0170], [0254],** highest scoring, the target surface structure determined from dependency structure and used to generate target sentence text **[0171]).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with the highest score is selected based on the evaluation and the selected text sentence candidate is output, in order to make the output sentence more resistant to errors caused by ambiguous grammar, as suggested by Wakita **([0021]).**

With respect to claim 19, Wakita does not, but Appleby discloses an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater

than a predetermined threshold is selected based on the evaluation and the selected text sentence candidate is output **([0246-0254],** evaluate scores, selecting the highest**)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita to include that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold is selected based on the evaluation and the selected text sentence candidate is output, in order to address the problem of not knowing the "correct" analysis from among the several analysis **(Appleby [0246]),** thereby improving the translation result.

With respect to claim 20, Wakita does not, but Appleby discloses an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold **([0246-0254],** evaluate scores, selecting the highest**)**, or as many text candidates with highest scores as a predetermined number N are selected based on the evaluation and the selected text sentence candidate is output.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita to include that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold, for reasons

similar to those of claim 19.

5. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), further view of Chan et al. (6,604,101), in further view of Fukumochi et al. (5,321,607).

With respect to claims 2 and 9, Wakita discloses after the sentence pair extraction step, one of the several competing translations is selected **(Fig 1,** sentence example selecting means selects one of examples from example database 3**)**.

Wakita does not specifically mention discloses a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table.

Appleby discloses a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table **(Fig 19a** show translation components which are stored with

correspondence information between the source and target language phrases, see also **[0176])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table, for reasons similar to those of claim 1.

Wakita, Appleby, and Chan do not specifically mention if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the partial correspondence information, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases.

Fukumochi discloses a keyword-related **(Col 6 lines 31-34,** sentence is segmented into each morpheme string**)** phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step **(Col 6 lines 58-59,** plurality of subtrees are extracted due to ambiguity, and **Col 7 lines 50-57,** each subtree is transformed to target language and

sentence produced for each one**)** and if two or more different keyword-related phrases in the source language are detected from the ambiguity **(see above)**, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases **(Col 9 lines 63-67,** partial translated sentence candidates are generate and the user is allowed to select one**)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan by including a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the partial correspondence information, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases, wherein in the keyword-related phrase storage step, if the user selects a keyword-related phrase from the presented two or more keyword-related phrases, a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table as taught by Fukumochi, in order to resolve disadvantages associated with ambiguity in an input sentence, as suggested by Fukumochi **(Col 1 lines 32-37).**

6. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), further view of Chan et al. (6,604,101), in further view of Tolin et al. (5,490,061).

With respect to claims 4 and 11, Wakita, Appleby, and Chan do not specifically mention in the sentence pair extraction step, at the beginning of the step, one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word.

Tolin discloses one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word **(Abstract,** words are subjected to morphological word stripping, which replaces with the root word which is similar since it has the same meaning**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita and Appleby by in the sentence pair extraction step, at the beginning of the step, one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word as taught by Tolin, in order to reduce database size by only having to store root words in a dictionary, as suggested by Tolin **(Title and Abstract).**

7. Claims 3, 10, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757) further view of Chan et al. (6,604,101), in further view of Fukumochi et al. (5,321,607), in further view of Sata et al. (5,608,623).

With respect to claims 3 and 10, Wakita does not, but Appleby discloses each

time one keyword is input in the input step, the sentence pair extraction step and the keyword-related phrase storage step are performed **([0171],** target text generation is done by recursively traversing a target surface structure to extract the target text from the target surface head and daughter components, see also claim 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that each time one keyword is input in the input step, the sentence pair extraction step and the keyword-related phrase storage step are performed, in order to provide continuous translation.

Wakita, Appleby, and Chan do not specifically mention a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases.

Fukumochi discloses a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases **(See claim 2)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan by including a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases for reasons similar to those of claim 2.

Wakita, Appleby, Chan, and Fukumochi do not specifically mention a co-occurrence word extraction step in which one or more co-occurrence words which co-occur with the keyword in the sentence pair are extracted and the extracted one or more co-occurrence words are described in a co-occurrence word table.

Sata discloses a co-occurrence word extraction step in which one or more co-occurrence words which are extracted **(Abstract, lines 1-5)** and the extracted one or more co-occurrence words are described in a co-occurrence word table **(Abstract lines 4-5, Fig 8)**.

It would have been obvious to one of ordinary skill in the art to modify the invention of Wakita, Appleby, Chan, and Fukumochi by including a co-occurrence word extraction step as taught by Sata and using the keyword related presentation step disclosed by Fukumochi to present co-occurrence words for selection such that co-occurrence words are presented to a user such that the user can select one or more co-

occurrence word from the co-occurrence words described in the co-occurrence word table in order to avoid a word of the highest frequency of use being simply adopted as its equivalent in the second language even when there are a plurality of equivalents in the second language, making the translation meaningless or unnatural, as suggested by Sata **(Col 1 lines 40-45).**

Wakita, Appleby, Fukumochi, Chan, and Sata do not specifically mention that if one or more co-occurrence words are selected by the user, the selected one or more co-occurrence words are input as new keywords in the input step, and the text sentence candidate generation step is performed after completion of inputting all keywords, but one skilled in the art at the time of the invention would have known to input the selected words as new keywords since the user is selecting them in the context of entering a word or phrase for translation, and including them would avoid the risks of meaningless or unnatural translations discussed above.

Claim 15 simply combines the salient features of claims 3 and 6, and so is rejected for reasons similar to those of claims 3 and 6.

Claim 16 simply combines the salient features of claims 3 and 7, and so is rejected for reasons similar to those of claims 3 and 7.

Claim 17 simply combines the salient features of claims 10 and 13, and so is rejected for reasons similar to those of claims 10 and 13.

Claim 18 simply combines the salient features of claims 10 and 14, and so is rejected for reasons similar to those of claims 10 and 14.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse Pullias whose telephone number is 571/270-5135. The examiner can normally be reached on M-F 9:00 AM - 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571/272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571/270-6135.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jesse Pullias/
Examiner, Art Unit 2626

/Talivaldis Ivars Smits/
Primary Examiner, Art Unit 2626 10/29/2009